

## Gold Quarry Slide – Investigation Project Status Report 25Apr05

### CAUSAL INVESTIGATION

- ⊕ Historic Information: *Air photos, progress topography, mine records, and anecdotal information have been collected. Newmont staff are preparing a technical memorandum documenting this information.*
- ⊕ Borehole Sampling and Materials Testing: *Call and Nicholas Inc. (CNI) finalized the memorandum entitled Recommended Materials Testing Program for the Analysis of the North Dump (attached). All planned boreholes have been drilled and completed. Table 1 presents the borehole drilling, instrumentation, and material sample status. Data from the piezometers in the boreholes are being processed for interpretation.*

*Collected material samples from all boreholes are at CNI's laboratories in Tucson, AZ and testing, under the supervision of Ross Barkley, is in progress. Shear testing of an individual sample is taking 8 or more hours (Figures 1 and 2). Additional characterization tests, as per the program (Memorandum Table 1), are also underway. In accordance with the testing program, samples from Lift 1 will be selected and sent to Dr. Mesri at the University of Illinois for ring shear tests.*

*During the 1 April conference call, Dirk van Zyl asked what the remolded sample target density was; this question was forwarded to Paul Pryor (CNI) who responded:*

*"We will be running the tests on samples remolded to approximately in-situ density. About 20 to 30 percent of the samples obtained for shear testing are intact. We can directly measure the in-situ density of these samples and shear them as intact rather than remolded samples. We will remold the disturbed samples to their estimated in-situ densities based on sample location and similarity of material to the intact samples for which density could be measured. During testing, some of all of the samples will undergo additional compaction at higher normal loads which represent higher stresses than they were exposed to in-situ. Therefore, the resulting density of the material at higher normal loads may be greater than the original in-situ density. When this occurs, we will allow samples to fully consolidate at each normal load before shearing."*

**Table 1.** *Borehole drilling, instrumentation, and material sample status. Locations of the boreholes are shown on Figure 2 of Recommended Materials Testing for the Analysis of the North Dump.*

| Hole ID      | Status    | Instrumentation            | Material Samples  |
|--------------|-----------|----------------------------|-------------------|
| Sonic Hole 1 | Completed | Piezometer – cable sheared | At CNI Laboratory |
| Sonic Hole 2 | Completed | Piezometer                 | At CNI Laboratory |
| Sonic Hole 4 | Completed | Piezometer/Inclinometer    | At CNI Laboratory |
| Sonic Hole 5 | Completed | Piezometer                 | At CNI Laboratory |
| GQND-INC-1   | Completed | Piezometer/Inclinometer    | At CNI Laboratory |
| GQND-INC-2   | Completed | Piezometer/Inclinometer    | At CNI Laboratory |
| GQNC-INC-3   | Completed | Piezometer/Inclinometer    | At CNI Laboratory |
| GQND-INC-5   | Completed | Piezometer/Inclinometer    | At CNI Laboratory |

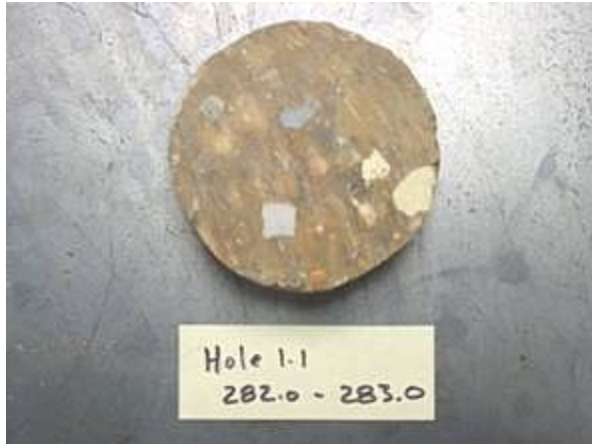
**Figure 1.** *Small-scale direct shear test machine at Call & Nicholas' laboratory.*



**Figure 2.** Material sample prepared for shear testing.

- ⊕ Test Pit Sampling and Materials Testing: *Testing of the material samples from the completed test pits has been finished. Additional test pits – at the north side of the slide toe - will be excavated and sampled. The locations of the completed and proposed test pits are shown on Figure 2 of Recommended Materials Testing Program for the Analysis of the North Dump.*
- ⊕ Failure Modes Table: *A preliminary Failure Modes Table has been developed. Refinement of the table is in progress.*





### STABILIZATION AND REMEDIAL ACTION PLAN

- ⊕ Environmental Protection and Monitoring: *Stormwater Best Management Practices (BMPs) continue to be regularly inspected and maintained as necessary. Maggie Creek monitoring data show no significant differences in monitored parameters (pH, conductivity, dissolved oxygen, temperature, total settleable solids, and turbidity) between the upstream and downstream sites. Maggie Creek flows appear to be at their peak (see attached data tables).*
- ⊕ Geotechnical Monitoring: *The robotic theodolite and associated equipment has been installed and is operational. Slope movement monitoring, with cable extensometers and automated surveys of prisms, is continuing. In general, there appear to be no significant changes in movement rates; movement - if any - at most prisms is very slow. However, over the past few days there has been a slight increase in the movement rates of some of the prisms. This is under investigation but may be due to 1) some overbank material from the unweighting was pushed into the main failure mass; 2) the cleanup work at the toe; or 3) precipitation during the wet weather over the past few days.*

**Figure 3.** Robotic theodolite and enclosure. Note pedestal-mounted theodolite, antenna for data telemetry, and underground power supply.



- ⊕ Unweighting: The initial unweighting excavation work was completed on 17Mar with about 900,000 tons of material removed from the top of the waste rock facility. About 800,000 tons have been removed in the second phase of unweighting with approximately 200,000 tons more to be removed over the next several days.

**Figure 4.** Unweighting cut – Phase 2.



- ⊕ Road Excavation: Road excavation recommenced after the initial unweighting work was completed and was conducted 'in balance' with the second phase of unweighting. Excavation of road corridor has been completed and only a 5-foot layer of slide material remains on the pavement (Figures 5, 6, and 7). Slide toe area contouring to a 3.5:1 slope continues.

**Figure 5.** Road excavation – view looking 'north' on SR766.



**Figure 6.** Road excavation – view looking ‘south’ on SR766.



**Figure 7.** Road excavation in progress.



**Figure 8.** View of face of slide area showing unweighting cut (upper bench), slide ‘shaping’, and road excavation.



⊕ Maggie Creek Emergency Action Plan: *The Gold Quarry Slide – Emergency Action Plan – Maggie Creek Obstruction was completed and informational copies were provided to NDOW, BLM, and NDEP. BLM provided comments on the plan. The*

*plan provides for the removal of minor obstruction(s) in Maggie Creek or the construction of a short-term diversion of Maggie Creek around a major obstruction in order to minimize the impoundment of water upgradient of an obstruction in the unlikely event slide material reaches the stream channel.*